

CLAIMS

[1] A process for producing 2,2,3,3-tetrafluorooxetane, which comprises allowing tetrafluoroethylene to react with a compound of formaldehyde generation source in anhydrous hydrogen fluoride, characterized in that the reaction is carried out in the presence of polyfluoroalkyl-carboxylic acid or polyfluoroalkyl ester thereof, represented by the following general formula :



(where Rf is a polyfluoroalkyl group having 1-5 carbon atoms, and Rf' is a hydrogen atom or a polyfluoroalkyl group having 1-5 carbon atoms).

[2] A process for producing 2,2,3,3-tetrafluorooxetane according to Claim 1, wherein the carboxylic acid, represented by the general formula RfCOORf' , is CF_3COOH .

[3] A process for producing 2,2,3,3-tetrafluorooxetane according to Claim 1, wherein the carboxylic acid ester, represented by the general formula RfCOORf' , is $\text{CF}_3\text{COOCH}_2\text{CF}_2\text{CF}_3$.

[4] A process for producing 2,2,3,3-tetrafluorooxetane according to Claim 1, wherein the carboxylic acid ester, represented by the general formula RfCOORf' , is $\text{CF}_3\text{COOCH}_2\text{CF}_3$.